MARINE
RECREATIONAL INFORMATION
PROGRAM

FY Project Plan

Development of alternative procedures to match component sample frames in dual-frame telephone survey approach

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1. Overview

1.1. Background

Development of survey methodologies that utilize angler registries as sampling frames was identified as the highest priority by the MRIP Operations Team for 2010. Current efforts to sample anglers from registries or license databases are limited by exemptions to registration requirements. To compensate for gaps in sampling frames resulting from registry exemptions, the MRIP License Survey Project Team has developed a dual-frame methodology that integrates registry frames (Angler License Directory or ALD Frames) with random digit dialing (RDD) frames. This project will result in continued enhancements to the dual frame telephone survey approach.

The interaction of ALD and RDD sampling frames defines four domains; 1) licensed anglers who reside in coastal counties (RDD and ALD), 2) non-licensed anglers who reside in coastal counties (RDD only) 3) licensed anglers who reside in non-coastal counties (ALD only), and 4) non-licensed anglers who reside in non-coastal counties (Neither RDD or ALD). The ability to accurately identify overlap between component sample frames, and subsequently define domain membership, is a critical aspect of any dual-frame design. Identifying overlapping units is necessary for calculating selection probabilities for the sample units. For example, a sample unit that is on both frames would have a greater probability of selection than a sample unit that is only included on a single frame. Ideally, frame overlap could be determined by matching data elements within the frames prior to data collection. However, this is often not possible, and frame association must be determined by some other means, such as asking survey respondents a series of questions designed to determine frame membership. This is a potentially large source of measurement error if respondents are unwilling or unable provide accurate responses to these questions.

In the dual-frame telephone survey, we attempt to determine if respondents to the CHTS are also on the ALDS sample frame by asking a series of questions about possession of a saltwater fishing license. Specifically, respondents are asked if they had a fishing license during the previous 12 months, if the license was for saltwater fishing, and if the license was valid during the reference period, but before the sample frame was compiled (ALDS sample frames are generally compiled 1 month prior to data collection). While this approach may seem relatively straight forward, it is complicated by several factors, including; 1) possession of a fishing license may be a socially desirable behavior, 2) respondents may not be able to recall exactly when licenses were purchased or valid, 3) even if a respondent provides accurate information, they may not be on the ALDS sample frame because they provided inaccurate or incomplete contact information when purchasing the license.

There are relatively straight forward alternatives to the current approach that could be examined at minimal cost. Specific alternatives include, 1) matching CHTS sample telephone numbers with telephone numbers included in the ALDS sample frame. This option is potentially limited by missing, inaccurate and non-landline telephone numbers on ALDS sample frames. 2) Finding

addresses for the CHTS sample through reverse lookup services and matching to the ALDS sample frame. This option is limited by the success of reverse matching, which is expected to be around 60% effective. 3) Collecting additional information in CHTS interviews, such as address and alternative telephone numbers, and matching this information to ALDS sample frames. As with Option 1, this option is limited by the quality and completeness of ALDS sample frames, as well as respondents' willingness to provide additional information. 4) Any combination of options 1-3.

We propose conducting all three options, as this would maximize the probability for successfully matching CHTS sample to ALDS sample frames. Matching CHTS sample telephone numbers to ALDS sample frames can begin immediately and be performed retrospectively to determine the effectiveness of the approach. Similarly, matching addresses derived from reverse lookup of CHTS telephone numbers to ALDS sample frames can be implemented relatively quickly and performed retrospectively. Adding questions to CHTS interviews to collect additional information could only be conducted for future waves and may require additional time for the development survey questions and modification of data collection contracts.

1.2. Project Description

1.3. Objectives

This project will result in an assessment of alternative approaches for matching component sampling frames of a dual-frame telephone survey design. This assessment will also provide a measure of respondents' willingness and ability to answer questions about possessing a fishing license. If demonstrated to be effective, the new matching approach(es) will enhance the quality of the dual-frame telephone survey approach by minimizing a potentially large source of measurement error.

1.4. References

2. Methodology

2.1. Methodology

2.2. Regions

2.3. Geographic Coverage

2.4. Temporal Coverage

2.5. Frequency

2.6. Unit of Analysis

2.7. Collection Mode

3. Communications Plan

3.1. Internal

3.2. External

4. Assumptions and Constraints

4.1. New Data

4.2. Track Costs

4.3. Funding Vehicle

ST Data Collection Contract

4.4. Data Resources

4.5. Other Resources

4.6. Regulations

4.7. Other

1. Constrained by the accuracy of information included in sample frames.
2. Constrained by effectiveness of reverse matching procedures.
3. Constrained by the inclusion of non-landline telephone numbers in ALDS sample frames.

5. Risk

5.1. Project Risk

Table 1: Project Risk

Risk Description	Risk Impact	Risk Probability	Risk Mitigation Approach

6. Final Deliverables

6.1. Additional Reports

6.2. New Data Sets

6.3. New Systems

7. Project Leadership

7.1. Project Leader and Members

Table 2: Project Members

Project Role	Name	Organization	Title

8. Project Estimates

8.1. Project Schedule

Table 3: Project Schedule - Major Tasks and Milestones

#	Schedule Description	Planned Start	Planned Finish	Prerequisites	Milestones

8.2. Cost Estimates

Table 4: Cost Estimates

Project Need	Cost Description	Date Needed	Estimated Cost
TOTAL			$0.00